

Inventor: Jianxing Li et al.

Title: Sputter Target Compositions, and Methods of Inhibiting Copper Diffusion into a Substrate

Assignee: Honeywell International Inc.

INFORMATION DISCLOSURE STATEMENT

PURSUANT TO 37 C.F.R. §§ 1.56, 1.97 AND 1.98

In compliance with 37 C.F.R. §§ 1.56, 1.97 and 1.98, your attention is directed to the United States patents and other references listed on the attached Form PTO-1449. No admission is made regarding whether all the submitted references are prior art.

The listed references were cited by, or submitted to, the Office in the parent, co-pending application of the above-identified application. The above-identified application is a divisional application of co-pending application Serial No. 10/297,001, filed November 26, 2002. Such prior disclosure is sufficient for the above-identified application as far as copies of the references are concerned. 37 C.F.R. § 1.98(d) and MPEP § 609(2).

Citation of these references is respectfully requested.

Respectfully submitted,

Dated: February 19, 2004

By: Jennifer J. Taylor
Jennifer J. Taylor, Ph.D.
Reg. No. 48,711

EL 979954496

Form PTO-1449		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTY. DOCKET NO. 30-5082-DIV1	PRIORITY SERIAL NO. 10/297,001	
LIST OF ART CITED BY APPLICANT (Use several sheets if necessary)				APPLICANT Jianxing Li et al.		
				PRIORITY FILING DATE November 26, 2002		PRIORITY GROUP 2812
U.S. PATENT DOCUMENTS						
*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA	6,024,847	02-2000	Rosenberg et al.		
	AB	2,949,357	08/1960	Resnick		
	AC	5,939,788	08/1999	McTeer		
	AD	4,903,117	02/1990	Okamoto et al.		
	AE	5,171,379	12/1992	Kumar et al.		
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	AK	5,110,637	05/1992	Ando		
	AL	6,451,402	09-2002	Nee		
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						Yes No
	AM	JP1092338	04/1989	Japan		
	AN	GB 810533	03/1959	Great Britain		
	AO	JP57019372	02/1982	Japan		
	AP	JP200273623	10/2000	Japan		
	AQ	SU1582683	09/1996	SU		
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)						
	AR	Hughes et al., "Grain Subdivision and the Development of Local Orientations in Rolled Tantalum" Tantalum, The Minerals, Metals & Materials Society, 1996, pgs. 257-262. (Year is sufficiently early so that the month is not an issue.)				
	AS	Arlt, Jr., "Sulfonation and Sulfonation to Thorium and Thorium Compounds" Kirk-Othmer Encyclopedia of chemical Technology vol. 22, pp. 541-564. (1993, Year is sufficiently early so that the month is not an issue.)				
	AT	Kirkbride et al., "The Effect of Yttrium on the Recrystallization and Grain Growth of Tantalum", J. Less-Common Metals, vol. 9, pp. 393-408, 1965. (Year is sufficiently early so that the month is not an issue.)				
EXAMINER				DATE CONSIDERED		
*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.						

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U.S. PATENT DOCUMENTS						
*Examiner Initial	Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
	AA	6,417,105	07-2002	Shah et al.		
	AB	4,895,770	01-1990	Schintlmeister et al.		
	AC	6,396,207	05-2002	Hasegawa et al.		
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						Yes No
	AD	252,442	09.06.1960	Australia		
	AE	WO 00/13235	09/03/2000	PCT		
	AF	08120445	14/05/1996	Japan		
	AG	FR 2 585 730 A1	08/01/1985	France		
	AH	GB 2 202 237 A	21/09/1988	GB		
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	AJ	2000012539	14/01/2000	Japan		
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	AQ	National Research Corporation Press Release, pgs. 1-4, July 1964.				
	AR	National Research Corporation Data Sheet "SGS Tantalum", pgs. 1-7, no date.				
	AS	ASTM Standard Specification for Tantalum and Tantalum Alloy Plate, Sheet, and Strip, pgs. 558-561, 1992. (Year is sufficiently early so that the month is not an issue.)				
	AT	Kumar, et al. "Effect of Intermetallic Compounds of the Properties of Tantalum" Materials Research Society Symposium Proceedings, vol. 322, pgs. 413-422, 1994. (Year is sufficiently early so that the month is not an issue.)				
	AU	Clark et al., "Influence of Transverse Rolling on the Microstructural and Texture Development in Pure Tantalum", Metallurgical Transactions, vol. 23A, pgs. 2183-2191, August 1992.				
	AV	Raabe, et al., "Texture and Microstructure of Rolled and Annealed Tantalum", Materials Science and Technology, Vol. 10, pgs. 299-305, April 1994.				
	AW	Kumar, et al. "Effect of Intermetallic Compounds of the Properties of Tantalum" Refractory Metals & Hard Materials, vol. 12, pgs. 35-40, 1994. (Year is sufficiently early so that the month is not an issue.)				
	AX	Klein et al., "Inhomogeneous Textures in Tantalum Sheets" Materials Science Forum, vol. 157-162, pgs. 1423, (1994). (Year is sufficiently early so that the month is not an issue.)				
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	AA	60/255,518	08-2000	Li et al.			
	AB						
	AC						
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		Document Number	Date	Country	Class	Subclass	Translation
							Yes No
	AD	WO 02/00959A1	01-2002	PCT			
	AE	09-625562	01-1997	Japan			
	AF	56-71955	06-1981	Japan			
	AG	02-173222	07-1990	Japan			
	AH	EP0872572A1	10-1998	EP			
	AI	WO 98/49357	11-1998	PCT			
	AJ						
OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, Etc.)							
	AQ	Wright et al., "Texture Gradient Effects in Tantalum", International Conference on Textures of Materials, 7 pgs., September 1993.					
	AR						
		Wright et al., "Textural and Microstructural Gradient Effects on the Mechanical Behavior of a Tantalum Plate", Metallurgical Transactions A, 25A (1994), pgs. 1-17. (Year is sufficiently early so that the month is not an issue.)					
	AS	Clark et al., "Effect of Processing Variables on Texture and Texture Gradients in Tantalum". Metallurgical Transactions A, Vol. 22A, September 1991, pgs. 2039-2047).					
	AT						
		Kumar et al., "Corrosion Resistant Properties of Tantalum" Corrosion 95, Paper No. 253, 14 pages. (No date)					
	AU	Knotek et al., "The Structure and Composition of Ti-Zr-N, Ti-Al-Zr-N and Ti-Al-V-N Coatings" Materials Science and Engineering, A105/106, December 1988, pgs. 481-488.					
	AV	Sakamoto et al., "Preparation and Microstructure of Reactively Sputtered Ti _{1-x} Zr _x N Films" Thin Solid Films 228, May 1993, pgs. 169-172.					
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